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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,738	07/22/2003	David T. Proefke	GP-302103	7167
7590 12/29/2005				
CHRISTOPHER DEVRIES General Motors Corporation Legal Staff, Mail Code 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000			EXAMINER CAVALLARI, DANIEL J	
			ART UNIT 2836	PAPER NUMBER

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/624,738	PROEFKE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Daniel J. Cavallari	2836	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-18 is/are allowed.
- 6) ☐ Claim(s) 1-4,8,9,19 and 20 is/are rejected.
- 7) ☐ Claim(s) 5-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to for the following reasons:

Figures 3 and 4 disclose flow charts with numerical labels that are not in sequential order. It is standard procedure to label sequential events in numerical order. The examiner understands that, because of the nature of a flowchart, it is difficult or impossible for all paths to be in numerical order, however the applicant's charts numerical labels are confusing and appear random.

Appropriate correction to a standard format is appreciated.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation in claim 12 of "adaptively settable" does not particularly point out and distinctively set forth a limitation of the timer. It is unclear what the limitation "adaptively", which is defined as "showing or having a capacity for or tendency toward adjusting to adaptation", in which adaptation is defined as "adjustment to environmental conditions: as a : adjustment of a sense organ to

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the intensity or quality of stimulation **b** : modification of an organism or its parts that makes it more fit for existence under the conditions of its environment”.

The claim will be examined as best understood to mean “... a timer settable in response”.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 3, 4, 8, & 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kusunoki (US 5,912,631).

Kusunoki teaches:

In regard to Claim 3

- Setting a timer to an adaptive door lock delay time in response to a history of vehicle door openings and closings (See Step 407, Figure 5) in which the process begins and if all doors were closed (START, See Figure 9 & Column 10, Lines 45-50) and the trunk door is open (Step 407, Figure 5), the process proceeds to (Step 2) and the timer is suspended
- Initiating a door lock request (Step 402, See Figure 5)

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- Monitoring door open status (See Steps 401, 407, 408, & 417, Figure 5 and Step 412, Figure 6)
- Starting a timer in response to the door lock request (Step 402, Figure 5) and door opening status (Step 401, Figure 5)
- Locking the doors of the vehicle at the expiration of the delay time (Step 409, See Figure 5)

In regard to Claim 4

- Setting the timer to a first delay time (Step 406, Figure 5), modifying the delay time (Step 411, Figure 6) in response to a pattern of vehicle door openings and closings (Step 407, Figure 5 & Step 412, Figure 6) following the door lock request (Step 402, Figure 5)

In regard to Claim 8

- The step of adding an increment of time to the adaptive door lock delay time (Step 411, Figure 6) following an unlock request (404) within a predetermined length of time after the step of locking the doors (Step 405, Figure 5). The predetermined length of time after the step of locking the doors being the next request to open the doors after they have been locked (Step 405, Figure 405) (See Column 11, Lines 1-22).

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In regard to Claim 9

- Initiating a door lock request comprising the steps of opening a door (Step 401 (YES branch), Figure 5), activating a lock request mechanism (Step 414, Figure 5) (See Column 12, Lines 11-24), and closing all doors of the vehicle (Step 408, Figure 5, NO branch)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 19, & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusunoki and Harrison et al. (US 2001/0047244 A1).

In regard to Claims 1 & 2

Kusunoki teaches

- A plurality of vehicle door locks (110 & 111) (See Figure 1 & Column 4, Lines 6-17) each configured to lock and unlock in response to a first type of signal read on by the command signal from the output port (103)
- A plurality of sensors (107 & 111) each configured to sense opening and closing of an associated vehicle door and to send second signals in

response to opening and closing of the vehicle door (See Column 3, Line 65 to Column 4, Line 5 & Figure 1)

- A lock requester, read on by the wireless transmitter (108) configured to send a third signal, read on by the coded signal, to the control module (100) (See Column 3, Lines 46-64 & Figure 1)
- A control module (100) configured to receive the second signals from the sensors (107 & 112) and the third signal from the lock requester (108), the control module comprising a memory (101A & 101B) and a timer (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> Timer Units)
- A timer settable in response to the history of the open or closed signal of a door (112) which checks the state of the door (See Step 407, Figure 5) and if the door was open, suspends a first timer (See Step 411, Figure 6).
- The control module configured to send a first type of signal to the plurality of vehicle door locks causing the vehicle door locks to lock (Step 410, See Figure 5) in response to timing out of the timer (Step 409, See Figure 5) following receipt of the third signal (Step 402, See Figure 5)

Kusunoki fails to teach storing a history of the second signals produced by the door sensors and instead actively pools the sensors (107 & 112). However, it is well known in the art to read in the status of a sensor and store the information into memory as opposed to continuously monitoring the sensors. Harrison et al. teaches stroing the position of a door into memory (402) (See Paragraph 36).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to store the position of the door into memory (101A & 101B, See Figure 1) and then use this stored information at step (208, See Figure 2) in which to determine if a door is open. The motivation would have been to conserve power by not actively polling the sensors (107 & 112, See Figure 1) which consumes power every time they are activated.

***Allowable Subject Matter***

Claims 5, 6, and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 5 recites the limitation of "storing a history of vehicle door opening and closings including a pattern of door openings and the delay between opening and closing of each door opened and modifying the time delay in response to a change in the stored history".

Prior art teaches storing the opening and closing of a vehicle door into memory (See Harrison et al. US 2001/0047244 A1, Paragraph 36). Prior art further teaches capturing the speed, direction, and position of a door which could be used to determine the delay between opening and closing of each door (See Fukumura et al. US 2003/0074966) however there is a lack of motivation to combine the prior art on record with that of Kusunoki.



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Claims 10-13 are allowable.

Kusunoki teaches:

- Activating a lock request while a vehicle door is open (Step 401, YES branch, Figure 5)
- Closing all doors of the vehicle (Step 401, NO branch, Figure 5)
- Starting countdown of a delay timer (Step 406) from a first predetermined time stored in memory (See Column 11, Lines 27-52) in response to all doors being closed and delaying locking of doors of the vehicle for at least the first predetermined time (Step 406, Figure 5)

However, Kusunoki fails to teach resetting the timer to a second delay time in response to a door being opened when the amount of time left on the delay timer is less than a fraction of the first delay time but greater than zero and resetting the timer less than the first delay time by a third delay time in response to the door being opened when the amount of time left on the delay timer is greater than a predetermined fraction of the first delay time.

Claims 14-18 are allowed.

Prior art of record fails to teach a vehicle locking system for locking the doors of a vehicle comprising the steps of setting a delay timer to a time retrieved from memory if a door opening/closing history exists wherein the memory is configured to store door opening/closing history, including sequence of door openings, times taken for door openings and time delays associated with door

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openings then using this information to determine and set a delay timer for the locking of the vehicle doors.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Yamasaki (US 6,075,454) teaches a door lock detector that detects the state of the door lock and stores this information into memory (21) (See Column 6, Line 63 to Column 7, Line 5); the use of a controller (16) to determine whether a door is opened (See Column 11, Lines 30-36); circuitry incorporating a timer (20), memory (21), sensors (19), used for a vehicle door entry procedure (See Figures 1,2, & 3)
- Harrison et al. (US 2001/0047244) teaches a vehicle memory (402) which records the vehicle door open/close data (See Paragraph 36)
- Segawa et al. (US 6,133,646) teaches a door lock device for vehicles incorporating memory in which to store various vehicle data (See Column 3, Lines 39-51)
- Aoki et al. (US 2004/0160126) teaches a vehicle door operating system incorporating a memory (See Paragraph 39)

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- Fukumura et al. (US 2003/0074966) teaches a vehicle sensor assemble which transmits door position signals (36 & 40) to memory (44) (See Paragraphs 16-21)
- Mochida et al. (US 4,486,806) teaches a vehicle locking system incorporating memory (See Figure 1)

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DJC

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